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Application Serial No. 08/558,544
Attorney Docket No. 0756-1441

forming first, second, and third conductive layers over the first, second, and third semiconductor islands with an insulating film interposed therebetween, respectively;
adding p-type impurities to the first semiconductor island and a first portion of the third semiconductor island by using the first and third conductive layers as masks; and
adding n-type impurities to the second semiconductor island and a second portion of the third semiconductor island by using the second and third conductive layers as masks.

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wherein [said photoelectric conversion semiconductor device further comprises an amorphous semiconductor film provided on a side of said intrinsic semiconductor region on which said image light is incident through said amorphous semiconductor film]
the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

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10. (Amended) [The] A device [of claim 9] for sensing a light comprising:
a light sensor region and n-type and p-type semiconductor switch regions adjacent to and operatively connected with said light sensor region over an insulating substrate having a blocking layer,
wherein a semiconductor region of the light sensor region and active regions of the n-type and p-type semiconductor switch regions comprise the same semiconductor layer formed on the blocking layer located on the insulating substrate,
wherein a Raman spectrum of the semiconductor layer exhibits a peak deviated from that which stands for a single crystal for the semiconductor, and
wherein said semiconductor [film] layer comprises hydrogen doped silicon.

11. (Amended) [The] A device [of] according to claim [9] 10, wherein said [image] light sensor region comprises at least two semiconductor regions having different electrical properties and forming a junction.

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53 13. (Amended) [The] A device [of] according to claim [9] 10, wherein said semiconductor layer has at least one of an electron mobility in a range from [15 to 100] 15 to 300 cm²/Vsec and a hole mobility in a range from [10 to 100] 10 to 200 cm²/Vsec.

54 15. (Amended) A device for reading an image comprising:
an image sensor region and a semiconductor switch region adjacent to and
operatively connected with said image sensor region over an insulating substrate having
a blocking layer.

wherein a semiconductor region of the image sensor region and an active region
of the semiconductor switch region comprise the same semiconductor layer formed on
the blocking layer located on the insulating substrate, and
wherein said semiconductor layer has a semi-amorphous structure comprising a
mixture of amorphous and crystalline structures, in which a Raman spectrum of the
semiconductor film exhibits a peak deviated from that which stands for a single crystal
of the semiconductor.

55 21. (Amended) A device for reading an image produced by a process
comprising the steps of:

forming a blocking layer on an insulating substrate;
depositing a semiconductor layer on the blocking layer;
forming at least first, second, and third semiconductor islands by patterning the
semiconductor layer;
forming first, second, and third conductive layers over the first, second, and third
semiconductor islands with an insulating film interposed therebetween, respectively;
adding p-type impurities to the first semiconductor island and a first portion of the
third semiconductor island by using the first and third conductive layers as masks; and

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adding n-type impurities to the second semiconductor island and a second portion of the third semiconductor island by using the second and third conductive layers as masks,

wherein the third semiconductor islands has a p-type impurity semiconductor region adjacent an intrinsic semiconductor region and an n-type impurity semiconductor region adjacent the intrinsic semiconductor region in order in a direction perpendicular to that in which an image to be read is incident thereon, and

wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

23. (Amended) A device for reading an image comprising:

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an image sensor and a semiconductor switch region adjacent to and operatively connected with said image sensor region over an insulating substrate having a blocking layer,

wherein a semiconductor region of the image sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed on the blocking layer located on the insulating substrate, and

wherein said semiconductor layer has a semi-amorphous structure in which a Raman spectrum of the semiconductor film exhibits a peak deviated from that which stand for a single crystal of the semiconductor, and said semiconductor switch region comprises complementary p-channel and n-channel thin film transistors.

30. (Amended) A device according to claim 21 wherein said semiconductor layer has at least one of an electron mobility greater than 15 cm²/Vsec and a hole mobility greater than 10 cm²/Vsec.

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32. (Amended) A device according to claim 46, wherein said blocking layer comprises silicon oxide.

J9

34. (Amended) A device according to claim 46, said p-type impurity regions contain boron.

35. (Amended) A device according to claim 46, wherein said n-type impurity regions contain phosphorus.

J10

37. (Amended) A device according to claim 36, wherein said blocking layer comprises silicon oxide.

38. (Amended) A device according to claim 36, wherein said gate insulating film is a silicon oxide film containing fluorine.

39. (Amended) A device according to claim 36, wherein said p-type impurity regions contain boron.

40. (Amended) A device according to claim 36, wherein said n-type impurity regions contain phosphorus.

41. (Amended) A device for sensing a light comprising:
a light sensor region and a semiconductor switch region adjacent to and
operatively connected with said light sensor region over an insulating substrate having a
blocking layer,

wherein a semiconductor region of the light sensor region and an active region of
the semiconductor switch region comprise the same semiconductor layer formed on the
blocking layer located on the insulating substrate.

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wherein said semiconductor layer has at least one of an electron mobility in a range of 15 to 300 cm²/Vsec and a hole mobility in a range of 10 to 200 cm²/Vsec, and
wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

42. (Amended) A device according to claim 10 wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

43. (Amended) A device for reading an image comprising:
an image sensor region and a semiconductor switch region adjacent to and
operatively connected with said image sensor region over an insulating substrate having
a blocking layer.

J 10
wherein a semiconductor region of the light sensor region and an active region of
the semiconductor switch region comprise the same semiconductor layer formed on the
blocking layer located on the insulating substrate.

wherein said semiconductor layer has at least one of an electron mobility in a
range of 15 to 300 cm²/Vsec and a hole mobility in a range of 10 to 200 cm²/Vsec, and
wherein the semiconductor layer has lattice distortion and the peak of a laser
Raman spectrum of the semiconductor layer is shifted to a lower wave number than
520cm⁻¹.

J 11
45. (Amended) A device for sensing a light comprising:
a light sensor region and a semiconductor switch region adjacent to and
operatively connected with said light sensor region over an insulating substrate having a
blocking layer.

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wherein a semiconductor region of the light sensor region and an active region of the semiconductor switch region comprise the same semiconductor layer formed on the blocking layer located on the insulating substrate,

wherein said semiconductor layer has at least one of an electron mobility greater than 15 cm²/Vsec and a hole mobility greater than 10 cm²/Vsec, and

wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

46. (Amended) A semiconductor device comprising:

an insulating substrate;

a blocking layer on said insulating substrate;

first, second, and third semiconductor islands on said blocking layer;

p-type impurity regions in said first semiconductor island with a first channel region interposed therebetween and in a first region of said third semiconductor island;

n-type impurity regions in said second semiconductor island with a second channel region and in a second region of said third semiconductor island;

an insulating film on said first, second, and third semiconductor islands; and

first and second gate electrodes over said first and second channel regions, respectively, with said insulating film interposed therebetween,

wherein a Raman spectrum of each of said first, second, and third semiconductor islands exhibits a peak deviated from that which stands for a single crystal of the semiconductor, and

wherein the semiconductor layer has lattice distortion and the peak of a laser Raman spectrum of the semiconductor layer is shifted to a lower wave number than 520cm⁻¹.

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48. (Amended) An electric equipment having a device according to claim 7,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

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49. (Amended) An electric equipment having a device according to claim 41,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

50. (Amended) An electric equipment having a device according to claim 10,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

52. (Amended) An electric equipment having a device according to claim 21,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

J13

53. (Amended) An electric equipment having a device according to claim 43,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

J14

55. (Amended) An electric equipment having a device according to claim 45,
wherein the electric equipment is selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

56. (Amended) A device according to claim 46, wherein the semiconductor
device is an electric equipment selected from the group consisting of a facsimile
machine, an image reader, and a digital copying machine.

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58. (Amended) A device according to claim 46, wherein the first and second semiconductor islands are located in a semiconductor switch region of the semiconductor device and the third semiconductor island is located in a light sensor region of the semiconductor device.

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